

Notice of Allowability	Application No.	Applicant(s)	
	10/672,598	BOTHWELL, PHILLIP D.	
	Examiner	Art Unit	
	Wilbert L. Starks, Jr.	2129	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address--

All claims being allowable, PROSECUTION ON THE MERITS IS (OR REMAINS) CLOSED in this application. If not included herewith (or previously mailed), a Notice of Allowance (PTOL-85) or other appropriate communication will be mailed in due course. **THIS NOTICE OF ALLOWABILITY IS NOT A GRANT OF PATENT RIGHTS.** This application is subject to withdrawal from issue at the initiative of the Office or upon petition by the applicant. See 37 CFR 1.313 and MPEP 1308.

1. ☒ This communication is responsive to the filing of 09/26/2003.
2. ☒ The allowed claim(s) is/are 1-16.
3. ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
 - a) ☐ All b) ☐ Some* c) ☐ None of the:
 1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this national stage application from the International Bureau (PCT Rule 17.2(a)).

* Certified copies not received: _____.

Applicant has THREE MONTHS FROM THE "MAILING DATE" of this communication to file a reply complying with the requirements noted below. Failure to timely comply will result in ABANDONMENT of this application.

THIS THREE-MONTH PERIOD IS NOT EXTENDABLE.

4. ☐ A SUBSTITUTE OATH OR DECLARATION must be submitted. Note the attached EXAMINER'S AMENDMENT or NOTICE OF INFORMAL PATENT APPLICATION (PTO-152) which gives reason(s) why the oath or declaration is deficient.
 5. ☐ CORRECTED DRAWINGS (as "replacement sheets") must be submitted.
 - (a) ☐ including changes required by the Notice of Draftsperson's Patent Drawing Review (PTO-948) attached
 - 1) ☐ hereto or 2) ☐ to Paper No./Mail Date _____.
 - (b) ☐ including changes required by the attached Examiner's Amendment / Comment or in the Office action of Paper No./Mail Date _____.
- Identifying indicia such as the application number (see 37 CFR 1.84(c)) should be written on the drawings in the front (not the back) of each sheet. Replacement sheet(s) should be labeled as such in the header according to 37 CFR 1.121(d).
6. ☐ DEPOSIT OF and/or INFORMATION about the deposit of BIOLOGICAL MATERIAL must be submitted. Note the attached Examiner's comment regarding REQUIREMENT FOR THE DEPOSIT OF BIOLOGICAL MATERIAL.

Attachment(s)

- | | |
|---|---|
| <ol style="list-style-type: none"> 1. <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) 2. <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) 3. <input checked="" type="checkbox"/> Information Disclosure Statements (PTO-1449 or PTO/SB/08),
Paper No./Mail Date _____ 4. <input type="checkbox"/> Examiner's Comment Regarding Requirement for Deposit
of Biological Material | <ol style="list-style-type: none"> 5. <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) 6. <input type="checkbox"/> Interview Summary (PTO-413),
Paper No./Mail Date _____. 7. <input checked="" type="checkbox"/> Examiner's Amendment/Comment 8. <input checked="" type="checkbox"/> Examiner's Statement of Reasons for Allowance 9. <input type="checkbox"/> Other _____. |
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EXAMINER'S AMENDMENT

The application has been amended as follows:

[16.] 15. A computer program product for forecasting the occurrence of a weather event, the computer program product embodied on one or more computer-readable media and comprising:

computer-readable program code means for input of a data set comprised of observations of data parameters made during a known time period at geographical sites;

computer-readable program code means for performing a Principal Component Analysis (PCA) to identify and select a reduced set of principal components corresponding to a subset of the data parameters, the reduced set of principal components being uncorrelated, the parameters in the subset of parameters contributing at least a majority of the variance of all the parameters;

computer-readable program code means for performing a logistic regression to determine the predictive equations for forecasting the occurrence of the selected weather event.

DETAILED ACTION

Reasons For Allowance

1. Claims 1-16 are allowed.
2. The following is an Examiner's statement of reasons for allowance:

The cited prior art taken alone or in combination fails to teach the claimed invention of weather prediction using principal component analysis (PCA) the way Applicant uses it. Specifically, independent claim 1 rotates the principal components before using them; independent claim 13 calculates a "PC loading matrix" to determine the probability of occurrence of a weather event; Independent claim 15 uses a logistic regression to determine the predictive equations for forecasting the occurrence of the weather event.

The closest prior art of Basak, et al., Weather Data Mining Using Independent Component Analysis, Journal of Machine Learning Research, vol. 5, (2004) pp 239-253. teaches the use of independent principal component analysis for weather prediction, but fails to teach or suggest the elements of independent claim 1 that rotate the principal components before using them; independent claim 13 calculate a "PC loading matrix" to determine the probability of occurrence of a weather event; independent claim 15 that uses a logistic regression to determine the predictive equations for forecasting the occurrence of the weather event. Further, the date is not early enough to be prior art.

To the extent that these features are not present in the prior art cited by Examiner, the present case is found to be allowable over the art of record.

Any comments considered necessary by applicant must be submitted no later than the payment of the issue fee and, to avoid processing delays, should preferably accompany the issue fee. Such submissions should be clearly labeled "Comments on Statement of Reasons for Allowance."

Conclusion

The prior art made of record and not relied upon is considered pertinent to Applicant's disclosure.

- A. Cook (U.S. Patent Number 6,988,056 B2; dated 01 JUN 2004; class 702; subclass 189) discloses a signal interpretation engine.
- B. Cook (U.S. Patent Number 6,546,378 B1; dated 08 APR 2003; class 706; subclass 012) discloses a signal interpretation engine.

Art Unit: 2129

Any inquiry concerning this communication or earlier communications from the Examiner should be directed to Wilbert L. Starks, Jr. whose telephone number is (571) 272-3691.

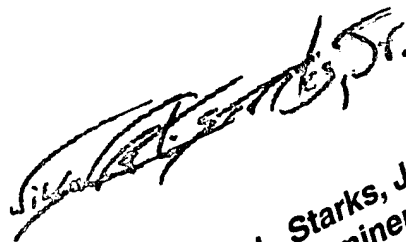
Alternatively, inquiries may be directed to the following:

S. P. E. David Vincent (571) 272-3080

Official (FAX) (571) 273-8300

WLS

20 February 2006



Wilbert L. Starks, Jr.
Primary Examiner
Art Unit - 2121